



Construction Program Procedure Bulletin

CPB 99-2 Removal of Yellow Traffic Stripe and Pavement Markings

References: Standard Specifications, Sections 15-2.02B and 15-2.03
Standard Special Provisions 10-1
Construction Manual 6-84 Traffic Stripes and Pavement Markings

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BACKGROUND

This Construction Program Bulletin establishes procedures to be followed in assessing, removing, and disposing of yellow traffic stripe and pavement marking materials (paint, thermoplastic, permanent tape, and temporary tape more than three years old) on all projects. This Bulletin does not apply to white pavement striping. Yellow paints currently specified for pavement striping are generally free of lead as are temporary yellow striping tapes less than three years old. The use of lead free paint was implemented approximately four years ago except in District 1. Yellow striping materials specified in the past exceed hazardous waste criteria under Title 22 California Code of Regulations (>1000ppm total lead or >5ppm water soluble lead) and/or regulated lead levels (>350ppm but <1000ppm total lead and <5ppm water soluble lead) requiring disposal to a class 1 landfill. Though yellow paint should now be lead free, it is possible that older striping containing lead has been painted over.

Removal of these striping materials and older paint formulations from the pavement (including the yellow pavement striping paint that continues to be used by District 1) may create residues that exceed regulatory thresholds for lead. These striping materials may also emit toxic fumes when heated.

EXISTING PROCEDURE

The removal and disposal of pavement striping from the roadway surface is addressed in the Standard Specifications in Sections 15-2.02B and 15-2.03. However, the issue of identifying, testing, and disposing of regulated levels of lead contained in the residues resulting from striping removal is not currently addressed in the Standard Specifications, Standard Provisions, or the Construction Manual.

NEW PROCEDURE

1. **Review Construction Contract:** The Resident Engineer (RE) shall review the construction contract to determine whether yellow traffic stripe and pavement marking material (paint, thermoplastic, permanent tape or temporary tape older than three years) must be removed and, if so, whether special handling as a hazardous waste is specified.
2. **Project Can Proceed If:** a) no such materials are to be removed; or b) striping has been previously assessed and found to be free of lead; or c) striping has been assessed and found to contain lead and the removal and disposal of striping as a regulated or hazardous waste is specified.
3. **Testing and Removal Requirements:** If yellow striping is to be removed and its removal has not been addressed in the contract, then the RE shall consult with the District Hazardous Waste Coordinator and have lead testing done. The RE may have the prime contractor undertake this initial testing and, if required, any additional lead abatement work.
 - a. **Non-Regulated Levels of Lead Found:** If no lead is detected by this initial testing or is detected at levels <350ppm total lead and <5ppm soluble, then the removal of the yellow pavement striping does not require either additional testing or collection of residues. The striping residues can be disposed of by the contractor as any other construction debris.
 - b. **Non-Hazardous Regulated Levels of Lead Found:** When lead levels detected by the initial testing are <5ppm water soluble and <1,000ppm total but >350ppm total, then an employee safety and health plan does not have to be prepared, though measures to suppress dust and follow good personal hygiene are still required. All residues including pavement debris, striping material, and removal agent are to be collected and stored in sealed drums. The material shall be retested and disposed of appropriately as set forth in No. 4. (Retesting and Disposal) below.
 - c. **Hazardous Levels of Lead Found:** Should the lead levels detected by this initial testing be >1,000ppm total lead and/or >5ppm soluble lead, then removal shall be treated as lead abatement work. Even when not contemplated in the contract, the abatement of lead contained in striping by the construction contractor is allowable under Section 25914.2 of the Health and Safety Code and Section 7058.7(d) of the Business and Professions Code. While the construction contractor must test the striping material when directed, he may refuse the abatement work under these circumstances. Should the contractor refuse the work, then the lead abatement shall be performed by one of the construction emergency Hazardous Materials contractors.
- 1) **Training:** Prior to performing any yellow traffic stripe and pavement marking removal, personnel who have no prior lead training, including State personnel, shall complete a safety training program provided by the contractor, which meets the requirements of Title 8 Section 1532.1.

- 2) **Lead Abatement Program:** Work practices and worker health and safety shall conform to Section 1532.1, "Lead," of Construction Safety Orders Title 8, of the California Code of Regulations. The Contractor shall submit the written compliance programs required in Subsection (e)(2), "Compliance Program," of Section 1532.1, "Lead," of the Construction Safety Orders to the Engineer before starting removal of yellow traffic stripes and pavement markings on the project and at such times when revisions to the programs are required by Section 1532.1, "Lead." The compliance programs shall be prepared by an industrial hygienist certified by the American Board of Industrial Hygiene and monitored by a competent person capable of taking corrective action. Copies of all inspection reports made in accordance with Section 1532.1, "Lead," shall be furnished to the engineer.
- 3) **Storage of Residues:** The collected residue shall be stored in properly labeled containers approved for the transport of hazardous waste by the United States Department of Transportation while awaiting any test results required by the disposal facility. The containers shall be covered and handled in such a manner that no spillage will occur. The stored containers shall be enclosed by temporary fence at a location within the project limits approved by the engineer. The contractor shall begin disposing of the contained residue in no more than 90 days after accumulating 100 kg. of residue.
4. **Retesting and Disposal:** The residue collected in the containers shall be retested as the level of lead waste contained in the removal material will be diluted by pavement debris that has also been removed. If still found to contain regulated levels of lead, such materials shall be disposed of as set forth below:
 - a. **Non-Regulated Levels of Lead Found:** If the lead in the material collected is detected at levels <350ppm and <5ppm soluble, then the material remains the property of the contractor and can be disposed of as any other construction debris.
 - b. **Non-Hazardous Regulated Levels of Lead Found:** If lead in the material collected is detected at levels >350ppm but less than <1,000ppm total lead and <5ppm soluble, then the material remains the property of the State and must be taken to a Class 1 disposal site. However, these materials do not require hazardous waste manifesting or handling by a registered hauler. Records of the testing, amounts of material and its disposition must be filed in the project files.
 - c. **Hazardous Levels of Lead Found:** If the lead in the collected materials is detected to be at levels >1,000ppm total lead or >5ppm soluble, then the materials must continue to be treated as a hazardous waste. Record keeping shall meet current requirements for hazardous waste handling and disposal and filed in the construction files. All debris produced when yellow traffic stripes and pavement markings

are removed will remain the property of the State and shall be disposed of by the contractor at an approved Class 1 disposal facility in accordance with the requirements of the disposal facility operator. The yellow traffic stripe and pavement marking debris shall be hauled by a transporter currently registered with the California Department of Toxic Substances Control using correct manifesting procedures. The contractor shall make all arrangements with the operator of the disposal facility and perform any testing of the yellow traffic stripe and pavement marking debris required by the operator. The contractor shall submit the name and location of the disposal facility along with the testing requirements to the engineer before starting removal of yellow traffic stripes and pavement markings on the project. The engineer will obtain the United States Environmental Protection Agency Identification Number and sign all manifests as the generator.

5. **Payment:** Unless the lead removal work was already contemplated in the construction contract, all work performed for testing, additional removal costs, retesting, and additional disposal cost shall be paid for as extra work.

This procedure will be incorporated into the next revision of chapter 6-84 of the Construction Manual and is also available on the Construction Program's intranet web site:

<http://babycray2.caltrans.ca.gov/hq/construc/cpbindx.htm>